Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Third Periodic Review of the	)	MB Docket No. 07-91
Commission's Rules and Policies	)	
Affecting the Conversion	)	
To Digital Television	)	
	)	

To: The Commission

REPLY COMMENTS OF TRIBUNE BROADCASTING COMPANY

Tribune Broadcasting Company ("Tribune"), by its undersigned counsel, hereby submits these brief reply comments in the above-referenced proceeding. Tribune filed an extensive set of initial comments that, *inter alia,* urged the Commission to (i) modify some of the proposals in the NPRM to give broadcasters more flexibility in building-out their post-transition facilities and (ii) make a number of technical changes to the rules or the Commission's processing software that will enhance the likelihood of a smooth (or a smoother) transition from analog to digital on February 17, 2009.

One of the technical changes Tribune supported was the elimination of the so-called 1 dB penalty the Commission's rules currently impose on UHF stations proposing to use beam-tilting techniques in excess of 1 degree.[1] Tribune notes that both the Metropolitan Television Association ("MTVA") and the Association of Federal Communications Consulting Engineers ("AFCCE") also support the elimination of the 1 dB penalty.[2] Fortunately, the MTVA and AFCCE supported another change to the beam-tilting rule that Tribune also supports but

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[1] Specifically, the rules require television stations proposing to use beam-tilting in excess of 1 degree to assume that the gain of the antenna proposed to be used is 1 dB higher than the gain specified by the antenna's manufacturer. *See* 47 C.F.R. § 73.622(f)(4)(ii).
[2] Comments of MTVA at 3; Comments of AFCCE at 2.

failed to include in its initial comments – namely the authorization of high-band VHF stations to use of beam-tilting in excess of 1 degree.

In analyzing the history of the 1 dB penalty, neither AFCCE nor the MTVA identified any scientific basis for it.[3] Indeed, the MTVA was the most blunt in summarizing its assessment of this provision: "the 1 dB penalty, a significant reduction in ERP for broadcasters, is an arbitrary value not supported by any rigorous scientific analysis but which is de minimis as compared to normal beyond-the-horizon attenuation and, therefore, should be eliminated."[4] Neither AFCCE nor the MTVA could find any technical support for the current limitation in the rule that prevented high-band VHF stations from using beam-tilting techniques in excess of 1 degree. In fact, both AFCCE and the MTVA noted that beam-tilting in excess of 1 degree by high-band VHF stations can be particularly helpful in providing an adequate signal to close-in locations.[5]

Given the lack of any scientific analysis supporting the 1 dB penalty or the VHF station prohibition, Tribune urges the Commission to eliminate them both. The 1 dB penalty is a serious deterrent to stations that might otherwise be interested in using beam-tilting while the VHF prohibition is an artificial, unsupported restriction on the stations that might otherwise use beam-tilting effectively.[6] Because beam-tilting in excess of 1 degree has been used successfully by stations to increase DTV signal strength in their core market areas, thereby enhancing the

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[3] Tribune's comments traced the 1 dB penalty to a February 1998 compromise between ALTV, Fox, Sinclair and MSTV to address a power gap problem between so-called UHF-UHF stations (i.e., UHF analog stations with UHF digital assignments) and VHF-UHF stations (i.e., VHF analog stations with UHF digital assignments). Tribune Comments at 28. The 1 dB penalty was imposed by the Commission as an added precaution to prevent interference at the edges of a station's service contour but without any technical justification.

[4] See MTVA Comments at 4.

[5] See, e.g., MTVA Comments at 2-3.

[6] Tribune's initial comments demonstrated that for a station otherwise authorized to operate with a 1 MW effective radiated power, the 1 dB penalty translated into a reduction in ERP to 794 kW.

likelihood of indoor reception, without increasing the overall level of interference, the Commission should remove any obstacle in the rules to the use of these beam-tilting techniques. Eliminating these obstacles is especially important at these stage of the transition given the Commission's recognition that the success of the transition hinges on the ability of stations to ensure that today's over-the-air analog viewers, including those viewers enjoying indoor analog reception, receive the same level of over-the-air digital service after February 17, 2009.

The problems with the Commission's current beam-tilting rule are also highlighted in the attached letter from Dielectric Communications. In the letter, Dielectric indicates that the 1 dB penalty currently in the rules "effectively reduces the station's ability to maximize coverage field strength inside its service contours by approximately 11%."[7] This loss of coverage obviously serves as a deterrent to the use of beam-tilting by many stations. Dielectric also indicates that that the 1 dB penalty is unnecessary as an additional precaution against interference because "[s]ophisticated coverage and interference models" have been utilized for sometime to demonstrate that the field strength at the outer edge of the service area of a station using excess beam-tilting is no greater than would exist if the station were operating at its assigned DTV power level. These facts provide additional support for the arguments of Tribune, the MTVA and AFCCE to eliminate the 1 dB penalty from the rules.

The Dielectric letter also confirms that there is no scientific basis to preclude high-band VHF stations from using beam-tilting techniques in excess of 1 degree: "[w]e are of the opinion . . . . that the present omission regarding the use of beam-tilting for VHF DTV should be addressed. Optimization of the DTV signal within a station's service area without creating

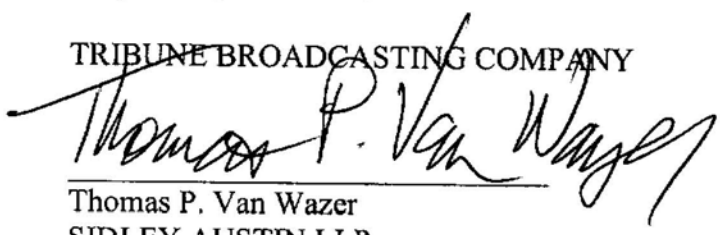
[7] See Letter from Joe Zuba, Regional Manager Dielectric Communications to Andy Bater, Director, RF Systems Engineering, at 1 dated August 27, 2007 (attached hereto).

unacceptable interference should be a goal for all stations regardless of the DTV channel being utilized."

For all these reasons, Tribune urges the Commission to eliminate the so-called 1 dB penalty in Section 73.622(f)(4)(ii) of the rules and to authorize the use of excess beam-tilting techniques by high-band VHF stations. Both actions will increase the likelihood that stations across the country will use these techniques, a development that the Commission should whole-heartedly embrace because it increases the likelihood that a sufficient level of indoor over-the-air service will be provided after the analog shut-down on February 17, 2009.

Respectfully submitted,

TRIBUNE BROADCASTING COMPANY



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Dated: August 30, 2007

Dielectric

Andy Bater
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August 27, 2007

Re: FCC Rules on Pattern Overtilting

Dear Andy,

We have reviewed the FCC's rules regarding the use of antenna beam tilting in excess of 1 degree. Specifically the following:

73.622(f)(4) – UHF DTV Stations may request an increase in power, up to a maximum of 1000 kW ERP, to enhance service within their authorized service area through use of antenna beam tilting in excess of 1 degree, as follows:

(i) Field strengths at the outer edge of the stations' service area shall be no greater than the levels that would exist if the station were operating at its assigned DTV power

(ii) Where a station operates at higher power under the provisions of this paragraph, its field strengths at the edge of its service area are to be calculated assuming 1 dB of additional antenna gain over the antenna gain pattern specified by the manufacturer.

We are of the opinion that 73.622(f)(4)(i) is consistent with past regulatory and industry accepted procedures for addressing guidelines for minimizing interference into adjacent markets. Our understanding of Section 73.622(f)(4)(ii) is to provide an additional 1 dB of margin against creating interference at the edge of the station's service area. Unfortunately, assuming a 1 dB increase in the antenna gain pattern in the direction of the service edge for field strength calculations (i.e. a 1 dB reduction in ERP) results in the assumption of a 1 dB increase in gain in all directions. This effectively reduces the station's ability to maximize coverage field strength inside its service contours by approximately 11%.

The use of antenna beam tilting to enhance local service has been commonplace for sometime. Sophisticated coverage and interference models exist and have been utilized to ensure and prove 73.622(f)(4)(i), without the requirement for additional margin as required by subsection (ii).

Additionally, there are many stations that will be using VHF channels as their final DTV transmission channel. We are of the opinion that the above discussion applies to VHF DTV transmission also, and particularly for Channels 7-13, and that the present omission regarding the use of beam tilting for VHF DTV should be addressed. Optimization of the DTV signal within a station's service area without creating unacceptable interference should be a goal for all stations regardless of the DTV channel being utilized.

Sincerely,

Joe

Joe Zuba
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